

CLAIMS

1. Method for control of a flap-actuator stepper motor for a motor-vehicle air-conditioning installation, characterised in that, during the actuation of the flap, information is continuously gathered representing the requirements for torque delivered by the stepper motor (112) in order to shift the flap, the drive frequency is reduced, if appropriate, in response to a detected increase in the torque requirements and, when the drive frequency is below a predetermined maximum frequency, the drive frequency is increased, if appropriate, in response to a detected reduction in the torque requirements.

2. Method according to Claim 1, characterised in that, in response to an actuation command, the operation of the stepper motor is initially ordered at the predetermined maximum frequency.

3. Method according to Claim 1, characterised in that the drive frequency is made to vary in a near-continuous way as a function of the fluctuations in the detected-torque requirements.

4. Method according to Claim 1, characterised in that the drive frequency is made to vary in steps, the move from one step to another being ordered in response to the crossing of a threshold by the detected-torque requirements.

5. Method according to any one of Claims 1 to 4, characterised in that the motor is fed in over-powered mode.

6. Method according to Claim 1, characterised in that information is gathered representing the torque requirements by detecting a quantity representative of the instantaneous torque delivered by the motor.

7. Flap actuator for a motor-vehicle air-conditioning installation, comprising a stepper motor (112) for driving the flap, an electrical power-supply circuit (104) for the motor, a control input (102) and a control unit (100) linked to the control input and to the electrical power-supply circuit (104) for delivering to the stepper motor (112) a power-supply voltage at a given frequency in response to an actuation command received on the control input (102), characterised in that:

- means (120) are provided for supplying the control unit (100) with information representing the torque requirements which the motor (112) has to deliver in order to shift the flap, and

- the control unit (100) comprises means for adapting the drive frequency of the stepper motor on the basis of the said information representing the torque requirements.

8. Actuator according to Claim 7, characterised in that the control unit (100) comprises means acting in response to the reception of the said information representing the torque requirements, in order, if appropriate, to reduce the drive frequency in response to a detected increase in the torque requirements and, when the drive frequency is below a predetermined maximum frequency, to increase the drive frequency, if appropriate, in response to a detected reduction in the torque requirements.

9. Motor-vehicle air-conditioning installation, characterised in that it comprises at least one actuator according to either of Claims 7 and 8.